Obsolete
Please contact Cougar's Sales staff for an alternative model

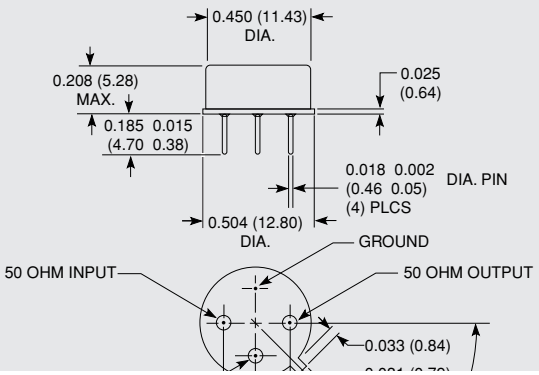
AP1059 10 TO 1000 MHz TO-8 CASCADABLE AMPLIFIER

Typical Values	***AP1059***
High Gain	***+13.5 dB***
High Output Power	***0.5 Watt***
High Third Order I.P.	***+40 dBm: < 500 MHz***
High Third Order I.P.	***+38 dBm: > 500 MHz***

High Performance Thin Film
Standard Size TO-8

AP1059

TO-8 Package for Amplifiers



SPECIFICATIONS*

Parameter		Typical	Guaranteed 0 to 50° C	Guaranteed -55 to +85° C
Frequency (Min.)		**5-1100 MHz**	**10-1000 MHz**	**10-1000 MHz**
Small Signal Gain (Min.)		13.5 dB	12.5 dB	12.0 dB

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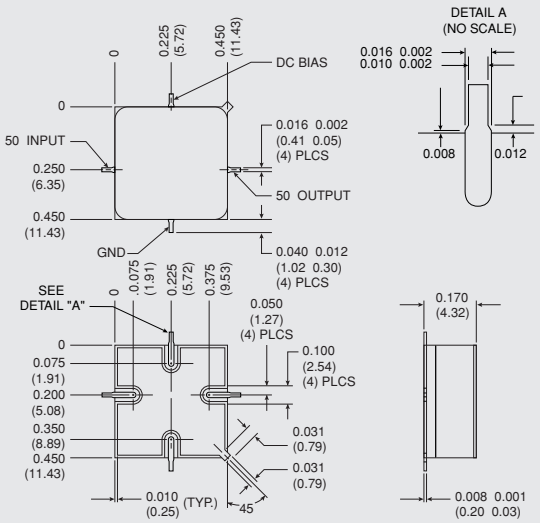
Gain Flatness (Max.)		< ±0.3 dB	±0.5 dB	±0.7 dB
Noise Figure (Max.)		5.0 dB	7.0 dB	7.5 dB
SWR (Max.)	Input	< 1.5:1	1.8:1	1.9:1
	Output	< 1.7:1	1.9:1^	2.0:1^

* Measured in a 50-ohm system at +15 Vdc unless otherwise specified.
^ 0.2 higher above 800 MHz.

APS1059

SMTO-8 Package for Amplifiers



DIMENSIONS ARE IN INCHES (MILLIMETERS)

INTERMODULATION PERFORMANCE

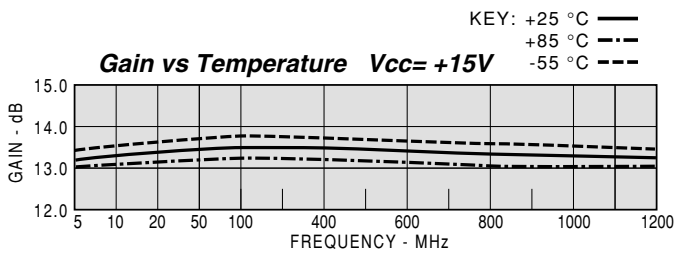
Typical @ 25° C	***AP1059***
Second Order Harmonic Intercept Point	+48 dBm
Second Order Two Tone Intercept Point	+43 dBm
Third Order Two Tone Intercept Point	+40 dBm

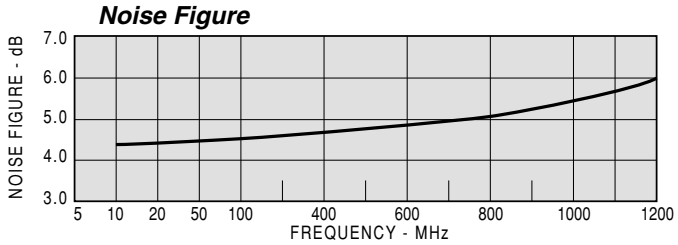
ABSOLUTE MAXIMUM RATINGS

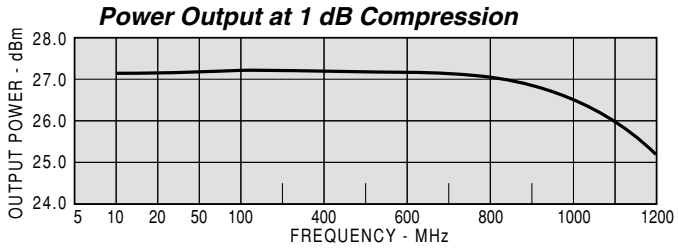
Storage Temperature	-62 to +125° C
Maximum Case Temperature	+125° C
Maximum DC Voltage	+17 Volts
Maximum Continuous RF Input Power	+15 dBm
Maximum Short Term Input Power (1 Minute Max.)	100 Milliwatts
Maximum Peak Power (3 µsec Max.)	0.5 Watt
Burn-in Temperature	+100° C
Thermal Resistance[1] (θjc)	+16° C/Watt
Junction Temperature Rise Above Case (Tjc)	+41.9° C

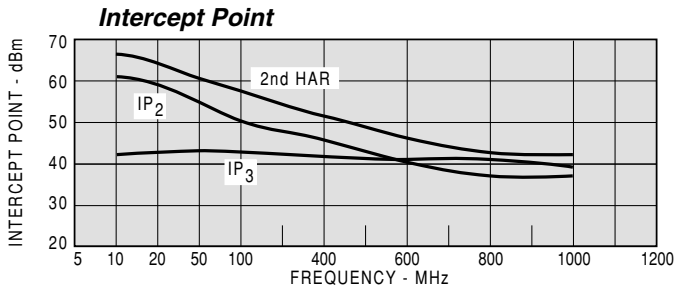
[1]Thermal resistance is based on total power dissipation.

TYPICAL PERFORMANCE









TYPICAL AUTOMATIC TEST DATA

Model: AP1059 Vcc=+15V Icc=175.98

FREQ MHZ	SWR IN	SWR OUT	GAIN DB	DELAY NSEC	REV/ISO DB
5	1.78	1.64	13.3		-18.1
10	1.44	1.45	13.5		-17.9
20	1.35	1.40	13.5	2.329	-17.8
50	1.32	1.39	13.5	0.811	-17.8
100	1.32	1.38	13.5	0.510	-17.8
200	1.36	1.37	13.4	0.435	-17.8
300	1.41	1.34	13.4	0.423	-17.6
400	1.42	1.31	13.3	0.413	-17.5
500	1.44	1.28	13.3	0.413	-17.4
600	1.43	1.27	13.3	0.420	-17.2
700	1.40	1.28	13.3	0.415	-17.0
800	1.37	1.34	13.4	0.431	-16.8
900	1.37	1.45	13.5	0.450	-16.6
1000	1.45	1.61	13.5	0.466	-16.4
1100	1.64	1.83	13.6	0.485	-16.4

LINEAR S-PARAMETERS

Model: AP1059 Vcc=+15V Icc=175.98

FREQ.	S11		S21		S12		S22	
MHz	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
5	0.28	-112.7	4.60	-152.8	0.125	31.0	0.24	-166.6
10	0.18	-136.7	4.71	-167.8	0.128	15.0	0.18	-175.7
20	0.15	-155.1	4.74	-176.3	0.129	7.0	0.17	-179.6
50	0.14	-169.3	4.72	175.2	0.129	-0.0	0.16	176.0
100	0.14	-174.3	4.72	165.9	0.129	-5.0	0.16	171.6
200	0.15	-179.1	4.68	150.5	0.130	-13.0	0.16	162.6
300	0.17	174.5	4.65	135.2	0.131	-20.0	0.15	155.1
400	0.17	164.1	4.63	120.1	0.133	-27.0	0.13	150.2
500	0.18	150.6	4.62	105.4	0.135	-35.0	0.12	149.1
600	0.18	135.2	4.63	90.4	0.138	-42.0	0.12	151.2
700	0.17	114.1	4.62	75.3	0.142	-51.0	0.12	157.5
800	0.16	86.1	4.66	59.8	0.145	-60.0	0.14	162.9
900	0.16	50.1	4.71	43.7	0.148	-70.0	0.18	162.4
1000	0.18	11.8	4.73	27.0	0.151	-81.0	0.23	155.8
1100	0.24	-21.0	4.77	9.5	0.152	-93.0	0.29	145.0
1200	0.33	-47.7	4.70	-9.2	0.153	-106.0	0.35	131.1
1300	0.41	69.9	4.65	-27.3	0.145	-119.0	0.38	114.6

Model: AP1059 Vcc=+12V Icc=138.97

FREQ MHZ	SWR IN	SWR OUT	GAIN DB	DELAY NSEC	REV/ISO DB
5	1.70	1.58	13.3		-18.0
10	1.41	1.42	13.4		-17.8
20	1.34	1.38	13.5	2.232	-17.8
50	1.32	1.37	13.5	0.794	-17.7
100	1.32	1.37	13.4	0.515	-17.7
200	1.37	1.35	13.4	0.443	-17.7
300	1.42	1.34	13.3	0.432	-17.6
400	1.47	1.32	13.2	0.430	-17.4
500	1.49	1.31	13.1	0.418	-17.3
600	1.49	1.32	13.1	0.428	-17.1
700	1.46	1.36	13.2	0.425	-16.8
800	1.43	1.45	13.2	0.440	-16.5
900	1.43	1.60	13.2	0.458	-16.4
1000	1.51	1.81	13.2	0.472	-16.2
1100	1.71	2.09	13.2	0.498	-16.1

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